INFORMATION REPORT INFORMATION REPORT

CENTRAL INTELLIGENCE AGENCY

S-E-C-R-E-T

25X1

COUNTRY USSR (Ukrainian SSR and Rostov Oblast)

REPORT

SUBJECT Industrial Plants in Dnepropetrovsk and Rostov

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Attachment 1 describes the plant layout and details concerning production at the Dnepropetrovsk gas plant. Attachment 2 includes information on the buildings, production, security, personnel and related subjects at the Krasnyy Aksay Cultivating Machine Plant in Rostov.

3/24 25 MAR 1959

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COUNTRY: USSR

SUBJECT: Krasny-Aksay Cultivating Machinery Plant in Rostov. 25X1

A. IDENTIFICATION AND LOCATION OF THE PLANT.

1. The cultivating machinery plant was known as Krasnyy-Aksay. 25X1 It was under the supervision of the Ministery of Heavy Industry. Located in Proletarskiy Rayon, the plant did not have a street address nor a number. It was in Rostov Oblast. There were no railroad lines nor highways near the plant. The Street car line No. 3 ran from Rostov to within 400 meters of the plant. 25X1

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B. Description of the Plant. 25X1

2. The plant consisted of 11 buildings constructed during the Tsarist period. It was surrounded by a wooden fence three meters high 25X1 There was one entrance. It 25X1 had no recently constructed buildings 25X1

C. Description and Use of Each Building.

1. The plant buildings, in general, had the following characteristics: They were rectangular, one-story, concrete and brick structures, with metal roofs, and no basements. 25X1 25X1

2. Building No. 1, the guard house, where two guards controlled the entrance and exit of plant personnel. The guards wore blue uniforms and were armed with rifles. They inspected the identification cards of all plant personnel. There were eight guards altogether.

3. Building No. 2, the garage, with dimensions 10m x 8m x 6m. In the garage were five or six Soviet-made trucks for transporting machinery from the plant and for distribution of materials inside the area.

4. Building No. 3, the plant clinic, was for emergency treatment of plant personnel and had no surgical equipment. There were two doctors and three practicianers in the clinic. 25X1

25X1

5. Building No. 4, the warehouse, used for storing gloves, all kinds of cleaning equipment, and oil for greasing machinery. 25X1

6. Building No. 5, the office, with two floors, both used for the plant offices. On the first floor were the offices of personnel in charge of pro- 25X1 duction. On the second floor were located the offices of the director, engineers, technicians, designers, and planners.

7. Building No. 6, the tool shop, manufactured/turning-tools, die-plates, and drills for use within the plant.

8. Building No. 7, the restaurant, built to reduce loss of time and to avoid employees' commuting to the city. It was attended by ten women.

9. Building No. 8, the forging shop, with a metal roof and glass skylights. The shop constructed wheels and gears and prepared parts for the cultivators.

10. Building No. 10, the milling shop, with a roof con- 25X1 structed of iron grill-work for skylights. The dimensions of the shop were 125m x 45m x 6m. In the shop the sheet iron was shaped into ovals and burred for the construction of harrow teeth, known as lapa (claws). Three different kinds of lapy were produced and designated numerically 10, 12, & 13. The lapy were used for 25X1 various kinds of cultivation, but were mainly employed in potato fields. The shop had the following machinery: eight large milling machines

10. Building No. 9, the packing department, where the harrowing machine parts were packed in wooden crates for shipment.

(The rest of the organization is under Farm Cultivation - Z.)

Under Packing - H.A.

25X1

25X1

with dimensions 2m x 0,5m; 25X1 two presses known as press with dimensions 3m x 0.5m and with a capacity of 30 MT. A total of 150 employees worked in the shop. They manufactured 1,000 to 1,100 lapy in an eight-hour shift. There was no margin of error.

2. Building No. 11, the paint shop, where the lapy were varnished blue and black in two metalic containers, the dimensions of which were unknown 25X1

D. Products:

1. Cultivating machinery with the trademark Krasnyy-Aksay.

2. There was no department for the repair or construction of military equipment.

E. Raw materials:

1. Sheet iron, bronze, and steel; wood for packing; coal in small quantities for the forging shop; and oil for greasing machinery.

2. The plant was not dependent upon raw materials imported from abroad. 25X1 it was ~~then it was~~ transported by barge down the Don River, which was 500m from the plant. 25X1

F. Water Supply.

1. There were no water tanks or pumps for supplying water to the plant. it was 25X1 piped from the Don River.

25X1

G. Power Supply.

1. An electric power plant in Rostov supplied power to the plant. the supply was 25X1 adequate, as there was never a power shortage in

 25X1

the plant [redacted] 25X1

H. Packing.

1. Wooden cases with dimensions 1m x 0.3m x 0.3m and others of 1/2m^3 were used for ~~the transportation of~~ packing the machinery. On the outside of all the crates was marked Krasnyy-Aksay. During the packing process, a woman was in charge of supervising the number of parts for each crate. Two other women made sure that the orders and shipments were complete and notified the attendant in charge of the respective division if there was a shortage or excess of parts needed to complete the shipment. 25X1

25X1

I. Transportation.

1. The transport of the shipments was in trucks owned by the plant [redacted] The trucks left the plant by a road in the direction of Rostov. All the vehicles used were light trucks of three MT and some of 1.5 MT.

* from Para. 11 - Packing dept.

J. Production System.

1. The sheet iron was brought into the plant on hand trucks and was taken to the milling shop. The surface of the sheets was then reduced to a minimum dimension which varied from three to seven mm. From the milling shop the sheets were taken directly to the presses, where they were cut to the appropriate measurements and given an oval shape. 25X1 [redacted] the production of machinery [redacted] 25X1 was for land cultivation, mainly the cultivation of potatoes. 25X1

[redacted] 25X1

K. Plant Production Data.

1. The average production during 24 hours approximated

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25X1

150 cultivators.

L. Working Conditions.

1. There were three work shifts of eight hours each. The number of workers in each shift in the milling shop was 40 to 45. 25X1 The number of working hours each week was not more than 50 and not less than 48. During the summer the workers were given 12 to 15 days' vacation, depending on length of service in the plant.

2. The monthly salary varied from 700 to 1,100 rubles. 25X1

3. There was only one emergency clinic at the plant. Workers in need of hospitalization were transferred to a sanatorium in Rostov.

M. Plant Security.

1. Within the plant there were no security precautions. Four or five guards were situated at each end of the plant and maintained a constant watch of the perimeter. For each shift there were five or six guards, two at the control gate and four dispersed around the plant. They were armed with rifles. There were 20 guards in all, who were plant employees and wore blue uniforms.

2. A propusk, an identification card with the photograph and number of the employee, was necessary in order to enter the plant. There was only one general entrance for all plant personnel. They had to show the propusk both on entering and leaving the plant. Access to shops in the installation, other than the worker's own, was not permitted.

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3. For each work shift, two firemen were sent to the plant from the Rostov fire department. New personnel were instructed in fire prevention. No precautions were taken against aerial attacks.

N. Organization and Personnel.

1. All the chief engineers of the different divisions and the plant director had their offices in Building No. 5 which was the head office. The general report on work norms was sent to this office. Wages were paid every 15 days through the head office. 25X1

2. [redacted] the organization of the milling shop, No. 10. There were about 150 persons working in three shifts. In each shift there were:

9 forgers
4 press operators
1 master
2 mechanics
3 office assistants
1 office manager
1 shop chief
1 assistant to the shop chief who was an agricultural machinery technician.
15 to 20 laborers for the shop services, such as carrying the materials to the shop and then taking the parts to Building No. 11 to be painted.

[redacted] 25X1

3. [redacted] names of the following officials: 25X1

a. Ivanov (fnu), the plant director [redacted]

25X1

b. Panchileyev (fnu), assistant to the plant director and chief machinery technician. 25X1

c. Chernyshev (fnu), shop chief

d. Kladov (fnu), milling shop master

4. There were no strikes nor did the workers complain about the wages or about the work. There was no class of workers with special privileges, and ~~There were~~ few absentees from work.

C. Deficiencies, Improvements, and Promotion of Production.

1. 25X1

There was no shortage of materials nor any difficiency in the production. The norm was always reached.

25X1

25X1

5. Building No. 4, the warehouse, ~~was~~ used for storing gloves, all kinds of cleaning equipment, and oil for greasing machinery.

25X1

6. Building No. 5, the office, ~~had~~ two floors, both used for the plant offices. On the first floor were the offices of personnel in charge of production. On the second floor were located the offices of the director, engineers, technicians, designers, and planners.

25X1

7. Building No. 6, the tool shop, manufactured turning-tools, die-plates, and drills for use within the plant.

8. Building No. 7, the restaurant, built to reduce loss of time and to avoid employees' commuting to the city. It was attended by ten women.

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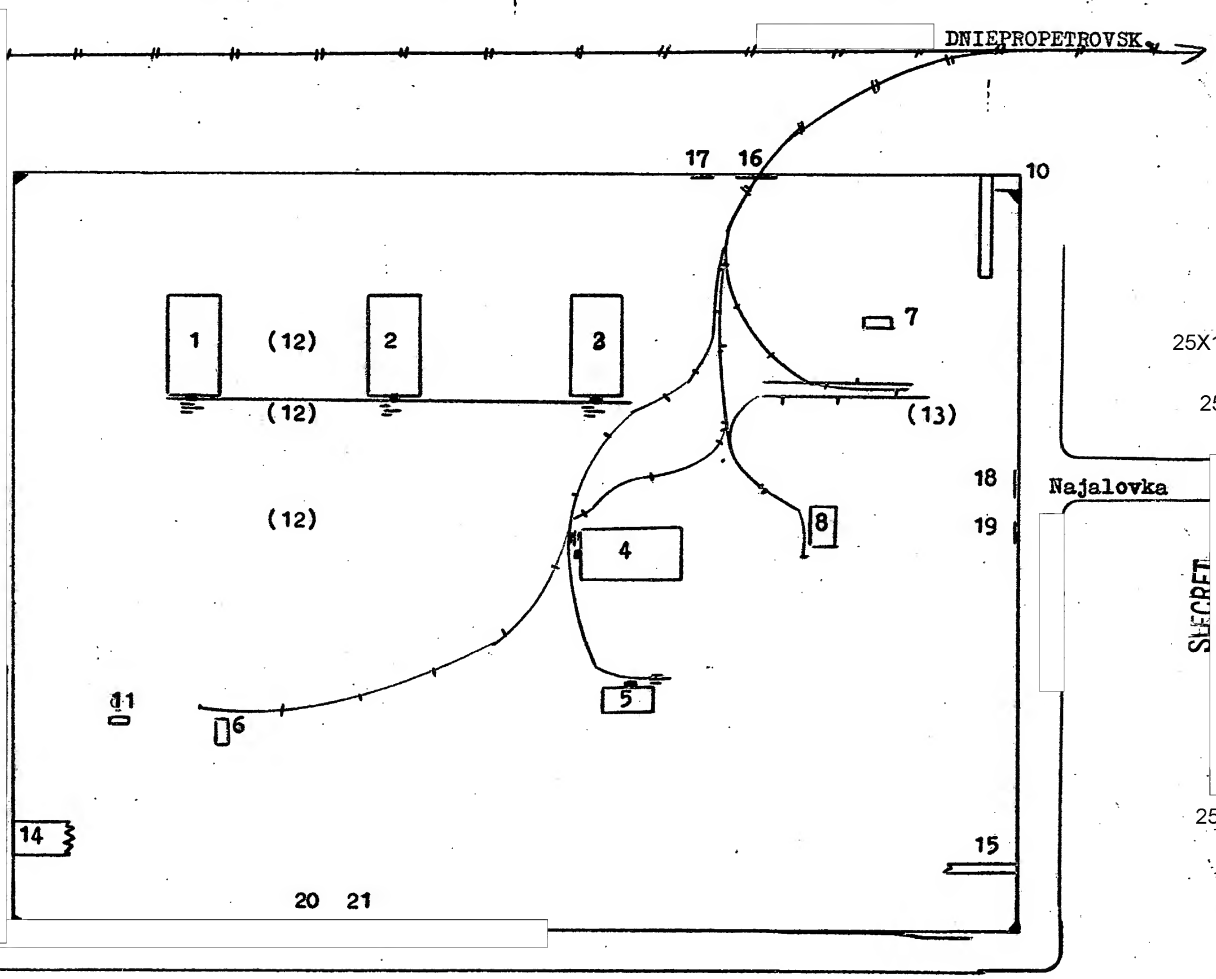

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Country USSR (Dnepropetrovsk)

25X1

Subject: DNEPROPETROWSK Gas Plant

A. Plant Identification:

Name of the plant: Dneprovskaya Gazovoy Zavod or the Dneprovskaya Gas Plant. It was under the jurisdiction of the Ministry of Metallurgy.

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B. Plant Location:

The plant is located in the city of Dnepropetrovsk on Belostotskaya Ulitsa (no number given), rayon NIshniy Dneprovaskiy, about 2 kilometers to the north of the Dnepr railroad bridge.

C. Description of the Plant:

(please see sketch attached to this report). The plant is surrounded by a reinforced concrete wall 3 or 4 meters high topped off with ~~aobarbo~~ barbed wire .70 meters high. 25X1 the wall has a total length of approximately 7,000 meters. 25X1

D. Description of each building and its function:

This plant consisted of 5 buildings directed connected with gas production and a series of smaller buildings such as the machine shop, electrical shop , generator plant, garage, first aide station, dining hall and offices. 25X1

1. 1st Section!

~~Building~~ 4

This is a brick and concrete structure, ~~three~~ story high and with a gabled roof containing many sky lights, measuring 200 x 100 x 25 -30 meters. It did not have a cellar but it did have a number of underground passages which housed the endless chain which fed the furnaces, the plants plumbing and numerous air ducts ~~which~~ brought for the furnaces. 25X1 the building fire-proof ~~[illegible] a conventional chimney but a metal stacks.~~ ~~Each boiler had a metal stack~~ 25X1

Each ~~boiler~~ furnace had a metal stack about 100 meters high.

The plant had good ventilation for in addition to the sky-lights it had many windows. The poorest ventilated floor was the ~~3rd.~~ 4th.

25X1

2. The production of gas:

This plant produced an oderless and colorless gas used in industry and in homes. Some was bottled for domestic use, Coke and coal in unspeciaified proportions were used to make gas.

The machinery [redacted] is German and was brought to the Soviet Union from Germany after World War II. The plant itself was built by German POW. [redacted] 25X1 25X1

The plant equipment consisted of 6 boilers each with a diameter of 20 neters and a height of about 7.5. Coal or coke are burnt in these boilers to produce the gas. (6)

There were six filters (7) which were called " Pilnik " which purified the gas with sprays of water. An additional six filters were on hand as reserves. The sparys of water removed the solid matter from the gas and also cooled it.

After leaving the filters the gas goes to a machine whivh does not look like a pump but has the same function. This machine forces the gas under pressure to various points. This machine (with a spare on hand) forces the gas to a railroad switch yard, and to the city.

In addition there are other machines such as the ten pumps for the water towers, 2 systems of endless chains which feed coke or coal to the boilers. One is a vertical system which brings the fuel to the level of the hoppers and the other travels horizontally and brings the fuel directly to the boilers.. There are six blowers which give the boilers forced draft. On the 2nd story there are four ventilator blower fans for each boiler. The plant is equipped with blowers set in the window to help circulate the air. All these fans are powered by electric motors especially designed to withstand heat and smoke.

On the 2nd and 3rd floors were control panles with intruments which determined gas density, pressure, temperature, voulme etc. [redacted] there was also a laboratory (floor on which located was not specified) which was well equipped. [redacted] 25X1 25X1

3. Labor force:

The plant employed about 400 men working 6 shifts of 4 hours per shift.

The workers were equipped with felt boots and heat resisting glove They were forced to wear a kind of a gas mask.

Safety patrol :

Specially equipped and specially trained patrols looked after the safety of the workers. They wore felt boots and used pants and jackets made out of water-proof, heat resisting material and a gas mask. Several types of masks were used but the most common was one without a face. It had a mouth piece and a kind of a clip that went over the nose. Goggles protected the eyes. Oxygne bottles with a four hour capacity were carried on the back.

25X1

25X1

4. Plant production :

This plant prodyced 1,200 cubic meters of gas per hour. The gas was almost 100 % pure with about one half of one to one percent methane gas.

Buildings 2 , 3 and 4 had identical functions as building no. 1. Building no. 5 was about half of the size of the others in equipment and labor force.

5. Plant Operations

this plant could produced only gas but in war time it convert to other kinds of production 25X1

6. Raw materials used :

The principal raw materials were coke and coal. The plant used about 16 carloads of coal , weighing 60 tons each , and from 3 to 5 carloads of the same capacity of coke per day: The coal came from the Don valley. the plant had a reserve supply of coke and coal sufficient for two days of operations. The daily consumation in terms of tons was 960 tons of coal and between 200 to 300 tons of coke. 25X1

The gasoline used by the plant's three trucks and two light staff cars was brought to the plant by a gas truck from the city of Dnepropetrovsk.

Drinking water came from the city's water supply while water used in the plant came from the Dnieper river. Two cylindrical containers made out of reinforced concrete and about 100 meters in diameter by 10 meters high which were used as water reserves. In addition there were 3 steel water towers approximately 10 to 15 meters in diameter and about 20 meters high. At the foot of each water tower was a circular pool with a conrete ring rising about 1.5 meters above the level of the ground and with a diameter of approximately 50 yards. The depth of the water in the pool was not specified. Water from the plant was pumped to the towers and from here it flowed into the pool after spraying against a metal screen . The water was cooled in this manner and used again in the plant. Waste waters returned to the Dnieper river.

G. Power Supply:

The power plant was located in a 3 story building. It occupied the entire area with the exception of some space on the third floor which was used as electrical shop.. the current was 220 volts AC and that the supply was adequate and there were no power failures. 25X1

Heuhad hadrheard that there was a damn on the Dnieper, near the town of Gress 25X1

H. Transportation system:

A double track railroad connected the plant with the railroad station of Nizhnaya which was located about 300 meters from the plant. Nizhnaya had direct rail connections with Moscow.

Coal was brought to the plant in wooden or in steel cars weighing about 60 tons and hauled by an electric locomotive. The coal was hauledooo transported within the plant by a narrow gauge railroad 25X1

25X1

hauling cars weighing 15 tons. Generally about 12 cars made up the train. There were a number of cranes of unspeciaiified capacity connected with the loading and unloading of coal.

The trains which brought the coal to the plant had no special schedule and remained just long enough at the plant to unload their cargo.

Streets

The streets of the plant were black topped and operational thd year round.

1. Stockpile

25X1

There was a coal pile which held a dwo days reserve of coal. There was also some acids which were used in the chemical analysis of the gas

The gas generator or boiler was made of steel with a thickness of about 25mm. The boiler has a water jacket approximately 300 mm thick to prevent over heating. The boiler was in the form of a open cylinder covered at the top on which there were nine openings into which steel rods were placed and used to stir the coke in the interior of the boiler. Each rod had a knob in the shap of an artichoke which directed steam downwards. Besides these openings there was a metal stack through which the smoke came when the Boiler was Lighted. The boiler was supported by four, reinforfed steeoo concrete columns and decorated with a band of glazed bricks.

Under each boiler was a water trap to preventthe escape of gas. There was also a mechanical device consisting of two rotaing blades within the boiler which broke up the clinkers and aided the circulation and draft.

About 2 or 3 cubic meters of kindling was necssary to light the boiler. This kindling was soaked with about 30 litros of kerosine, and ignited. When it was burning properly, more coal was put on until the proper level had been reached, and a temperature of some 1,200 degrees indicated. 0000000000000000 Then an analysis of the gas is made and if found to contain the right proportions (0.80 % oxygen) the draft and the top are closed and the conduit which takes the gas to the filter point is opened. (7) This filter is called " Pilnik " and it is here that the gas is washed in sprays of water, removing the solid matter from it such as dust and carbon and at the same time cooling it. From here it passes to a purifying machine called " GAZDUVKA " which has many dials and is very large in size. It removes the undesireable gases and than forces the gas through the outlet system. While the gas passed from the boiler to the filter point it was subjected to a blast of steam, within the gas conduits, which affected the 25X1 oxygen content of the gas.

Plants no. 1 , 2 , and 3 had gas lines going to the Railroad 25X1 switching house.

Plant no. 4 and 5 had two outlets: one went to the main plant and the other to Dnepropetrovsk.

The gas conduits leaving the plant were about 1.5 meters undergroun In order to maintain the outgoing gas at an optimum temperature, the gas conduit was wound with a flexible steam pipe. The gas conduit had an inside diameter of about 1.5 meters and its total length, was about 600 meters. This was the conduit between plant no 4 and 5 and the main plant. The gas conduit going to the city was about 40 to 50 CM in dimater and of unspeciaiified length. This main gas line was protected by a concrete and brick covering which help

25X1

to maintainthe proper temperature, protected the steel from humidity and made repairs easier.

Plant security :

In addition to the usual 2 or three guards at each entrance to the plant there were outside guards as well. The plant was well illuminated by floodlights at night. The exterior guards used dogs whose leashes were tied to a cable by a ring, permitting the dogs to cover a large area. about 50 guards 25X1 made up the security guard.

The workers had the usual " propusk " as identification. The color of this card was changed every year. Besides this pass each worker had a metal disk with a number. Upon entering the plant, this metal disk was left with the guard and the workmen picked up their metal disks upon leaving the plant. Each man entered and left the plant through a prescribed door. Workers could circulate from one section to another but they were kept too busy to do so.

The fire fighting crew consisted about 100 men divided into six shifts. They had 3 fire rucks and 1 hook and ladder truck besides the usual fire fighting equipment such as axes, crow bars etc. The fire fighting crew was assisted by the safety patrol and the workers themselves who were trained to fight fires.

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Personnel

The plant,s personnel consisted of the following:

- Plant manager: chemical engineer
- Assistant plant manager , chemical engineer
- Chief chemical engineer and his staff consisting off:
  - Assistant chemical engineer
  - Mechanical engineer
  - Engineer (function not specified)
  - Chemical engineer, head of the central laboratory
  - Chief mechanic, head of the maintenance section
- Part secretary
- Secretary of the Komsomol
- Presidente of the Labor Union local
- Director of personnel
- Security chief

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The sections of the plant were organized as follows:

1 chemical engineer, section head
1 assistant (chemical expert)
1 master worker as chief of each shift
1 chemical engineer, head of the laboratory
1 mechanical expert
1 maintenance expert with a team of six helpers
1 chief machine fitter
1 electrician (chief)
1 mechanic (chief)
1 instrument specialists (maintenace of instruments and gauges in the laboratories)
1 member of the N= G= B.)
1 chief of the coal crew
1 chief fireman
1 party secretary
1 secrteray of the Komsomol
1 head of the labor Union Local
7 women cleaning team
12 people in charge of worker's welfare

There were no armed forces personnel in this plant.

[redacted] plant was working at maximum capacity [redacted] they were planning to install more modern equipment, and to build additional buildings.

25X1

Legend

1.	4 story building	in which the 1st Section is located
2.	4 story building	in which the 2nd Section is located
3.	4 story building	in which the 3rd Section is located
4.	4 story building	in which the 4th Section is located
5.	4 story building	in whcih the 5th Section is located
6.	3 story building	Power plant and electrical shop
7.	2 story building	
8.	coal pile	
9.	4 story building	Offices
10.	1 story building	garage
11.	3 story building	dining hall
12.	Water cooling towers	
13.	Water tanks	
14.	Gas outlet (to Railroad switch yard)	
15.	Gas outlet for the city of Dnepropetrovsk.	
16.	railorad entrance into the plant area	
17.	peronnel entrance	
18.	vehicle entrance	
19	entrance for personnel	
20.	entrance for personnel	
21	vehicle entrance	

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Ans. The Office of Economic Service was allotted money each year by the govt to repair & maintain the railroads. The prices of nickel, zinc, duraluminum, silver, lead & copper are given.